

CLAIMS

4 1. A circuit component comprising:
5 a first structure having first and second opposing surfaces and provided from an
6 elastically deformable material; and
7 a second structure having first and second opposing surfaces, with the first surface of
8 said first structure disposed proximate the first surface of said second structure; and
9 a support structure disposed between the first surface of said first structure and the first
10 surface of said second structure such that the support structure acts as a fulcrum about which
11 said first structure can be elastically deformed, causing at least a portion of the first surface of
12 said first structure to move relative to the first surface of said second structure.

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14 2. The circuit component of Claim 1, further comprising:
15 a conductor disposed on the first surface of said first structure in a first conductive
16 region; and
17 a conductor disposed on the first surface of said second structure in a second conductive
18 region, wherein the first conductive region and the second conductive region are separated by a
19 gap, forming a capacitor.

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21 3. The circuit component of Claim 2, wherein the capacitor has a capacitance which varies
22 in proportion to variations of the gap formed between the first conductive region and the second
23 conductive region in response to elastic deformation of said first structure.

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25 4. The circuit component of Claim 2, further comprising:
26 a conductor disposed on the first surface of said first structure in a third conductive
27 region coupled to the first conductive region;
28 a conductor disposed on the first surface of said second structure in a fourth conductive
29 region coupled to the second conductive region, wherein the third and fourth conductive regions
30 form an inductor in parallel with the capacitor.

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2 5. The circuit component of Claim 4, wherein the capacitor has a capacitance which varies
3 in proportion to variations of the gap formed between the first conductive region and the second
4 conductive region in response to elastic deformation of said first structure, and wherein the
5 inductor has an inductance, which is essentially constant.

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7 6. The circuit component of Claim 1, further including conductive layers disposed on the
8 first surface of each of the first and second structures, forming a zipper actuator adapted to
9 elastically deform the first structure in response to a voltage applied between the conductive
10 layers.

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12 7. A method of making a circuit component, comprising:
13 processing an elastically deformable wafer having first and second opposing surface to
14 provide a first structure;

15 forming a second structure having first and second opposing surfaces;
16 processing a selected one of the first structure and the second structure to provide a
17 support structure; and

18 bonding the support structure to the unselected one of the first structure and the second
19 structure such that the support structure acts as a fulcrum about which said first structure can be
20 elastically deformed, causing at least a portion of the first surface of said first structure to move
21 relative to the first surface of said second structure.

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23 8. The method of Claim 7, wherein the first structure is silicon, the second structure is a
24 selected one of glass and quartz, and the selected one of the first structure and the second
25 structure is the first structure.

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27 9. The method of Claim 8, wherein the bonding step includes anodic bonding.

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29 10. The method of Claim 9, wherein the first structure is silicon and the second structure is

1 silicon.

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3 11. The method of Claim 10, wherein the bonding step includes fusion bonding.

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5 12. The method of Claim 7, further comprising:

6 processing the first surface of the first structure to provide a first conductive region; and

7 processing the first surface of the second structure to provide a second conductive

8 region, wherein the first conductive region and the second conductive region are separated by a

9 gap, forming a capacitor.

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11 13. The method of Claim 12, wherein the capacitor has a capacitance which varies in
12 proportion to a variable gap formed between the first conductive region and the second
13 conductive region in response to elastic deformation of said first structure.

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15 14. The method of Claim 12, further comprising:

16 processing the first surface of the first structure to provide a third conductive region

17 coupled to the first conductive regions; and

18 processing the first surface of the second structure to provide a fourth conductive region

19 coupled to the second conductive region, wherein the third and fourth conductive regions form

20 an inductor in parallel with the capacitor.

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22 15. The method of Claim 14, wherein the capacitor has a capacitance which varies in
23 proportion to a variable gap formed between the first conductive region and the second
24 conductive region in response to elastic deformation of said first structure, and wherein the
25 inductor has an inductance which is essentially constant.

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27 16. The method of Claim 7, further including forming conductive layers on the first surface
28 of each of the first and second structures, forming a zipper actuator adapted to elastically
29 deform the first structure in response to a voltage applied between the conductive layers.